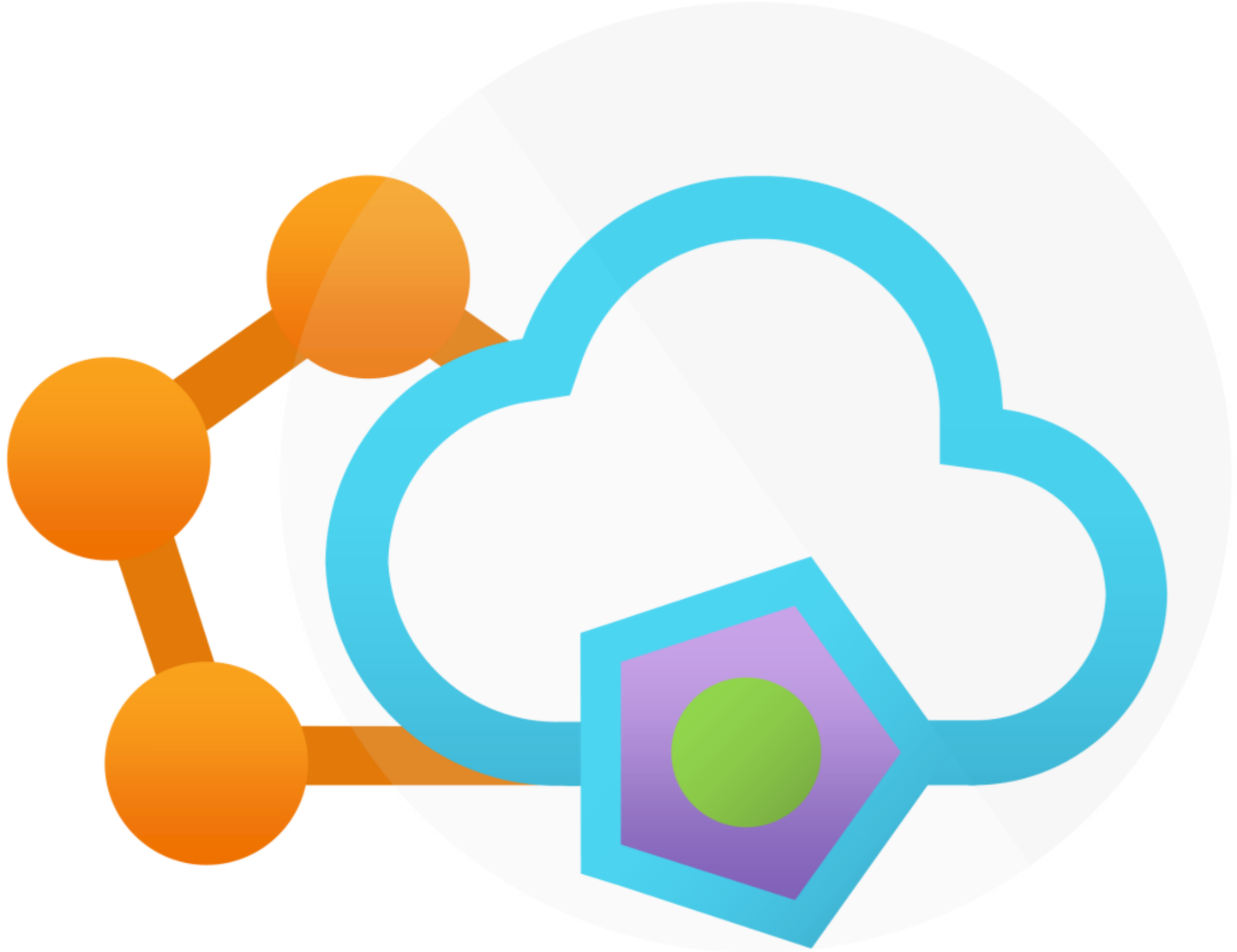

Real-time Intelligence with Microsoft Fabric

Paul Andrew

Technical Strategist

Microsoft MVP Most Valuable Professional

Cloud Formations

Paul Andrew

Co-Founder & Director

Chief Technology Officer

/mrpaulandrew

@mrpaulandrew

In/mrpaulandrew

- Mentor | Author
- Speaker | Podcast Host
- Event Organiser

SQL Server 2000

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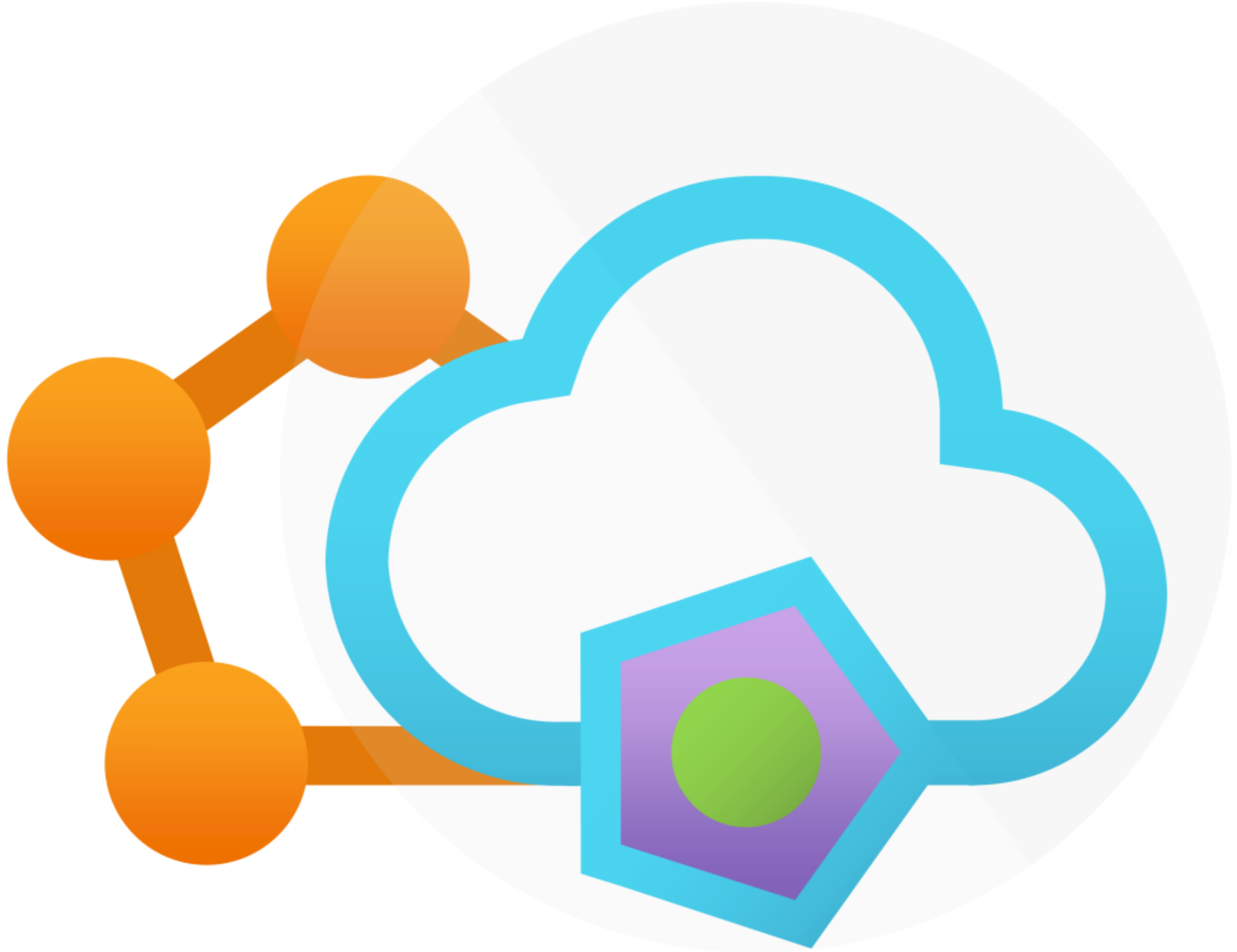

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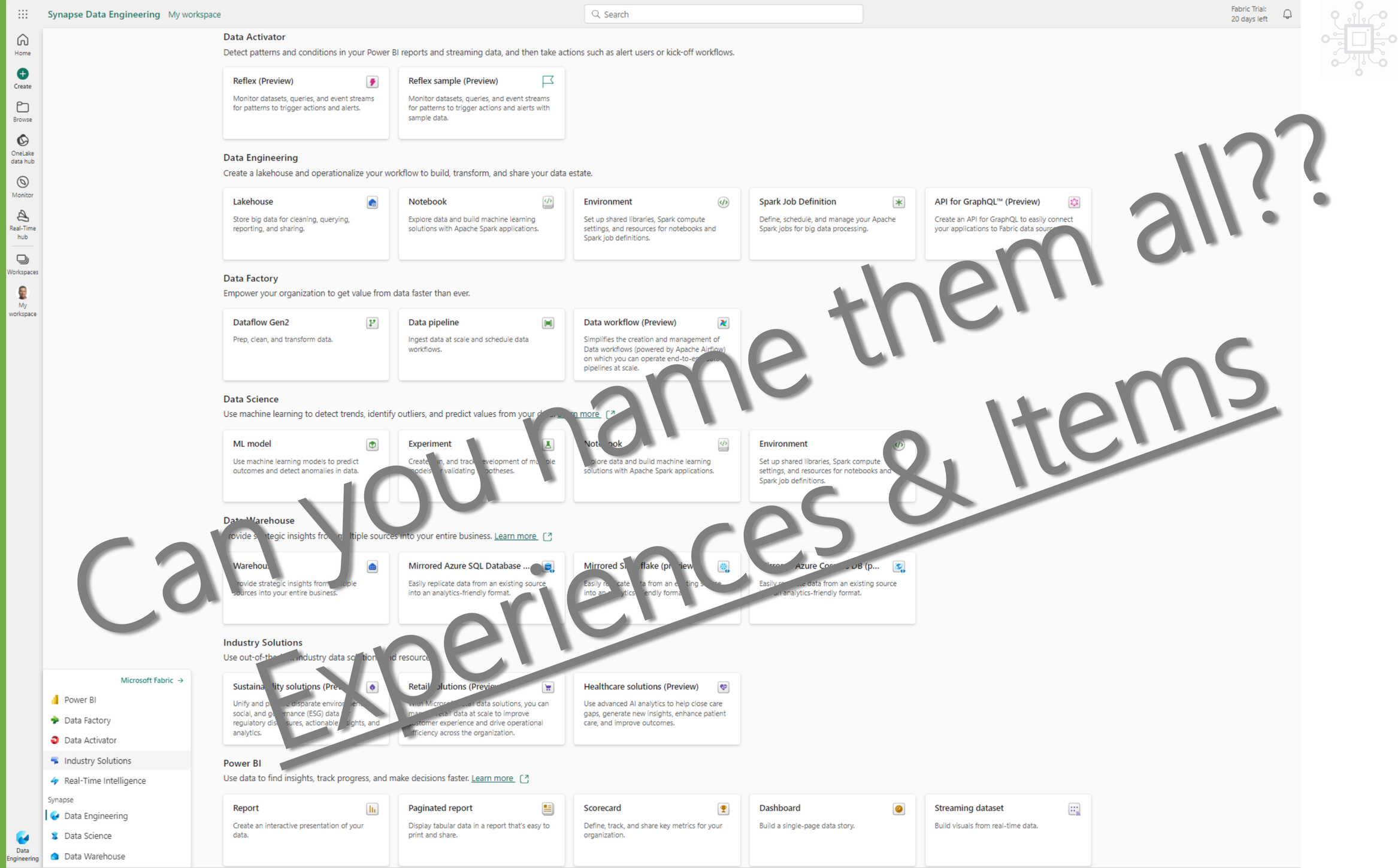
The Microsoft Fabric Icon Game



Can you name them all??

Experiences & Items

Microsoft Fabric

Power BI

OneLake

Data Activator

Reflex

Data Warehouse

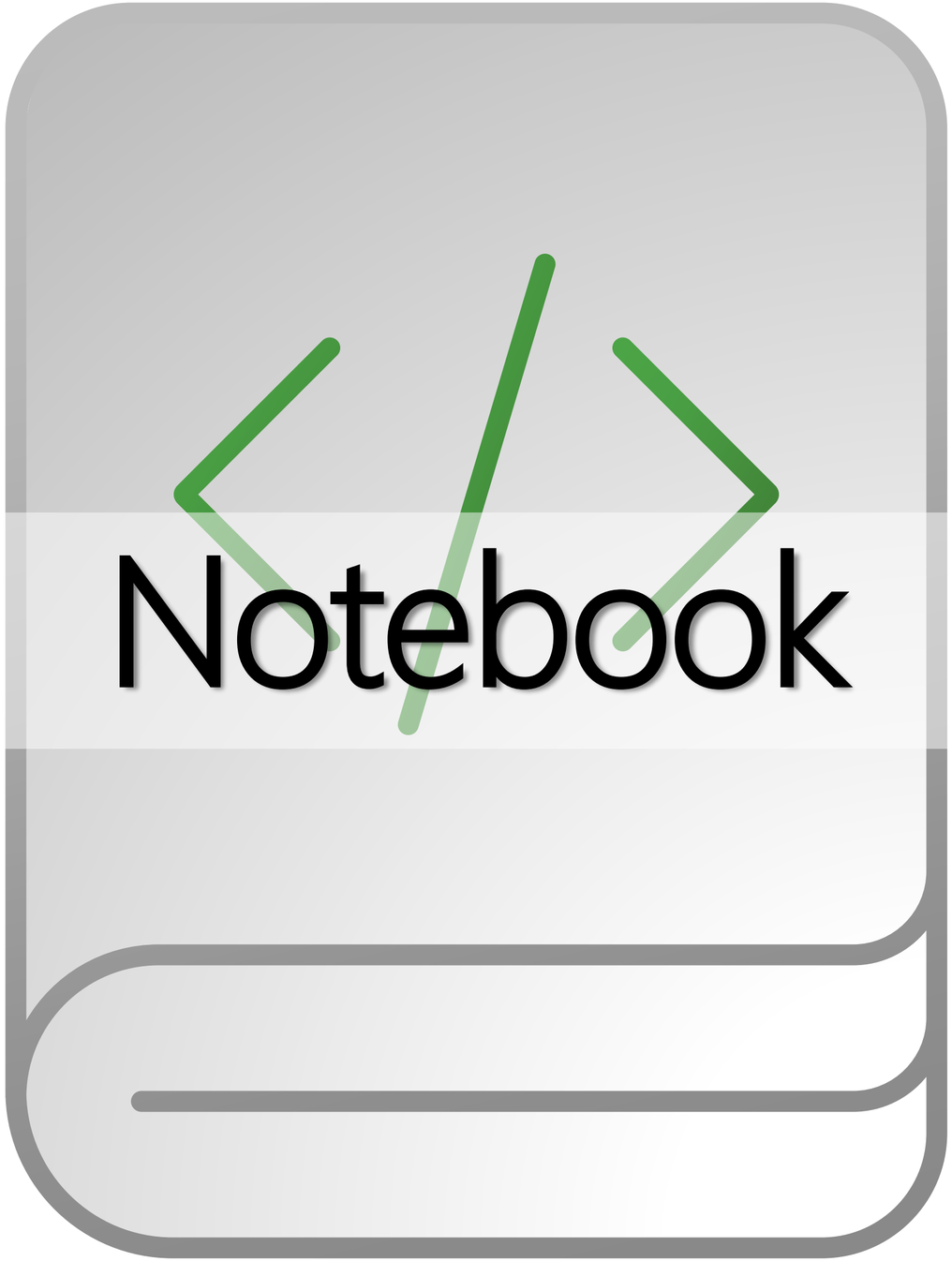
Lakehouse

Real-time Intelligence

KQL Database

Event Stream

Event House

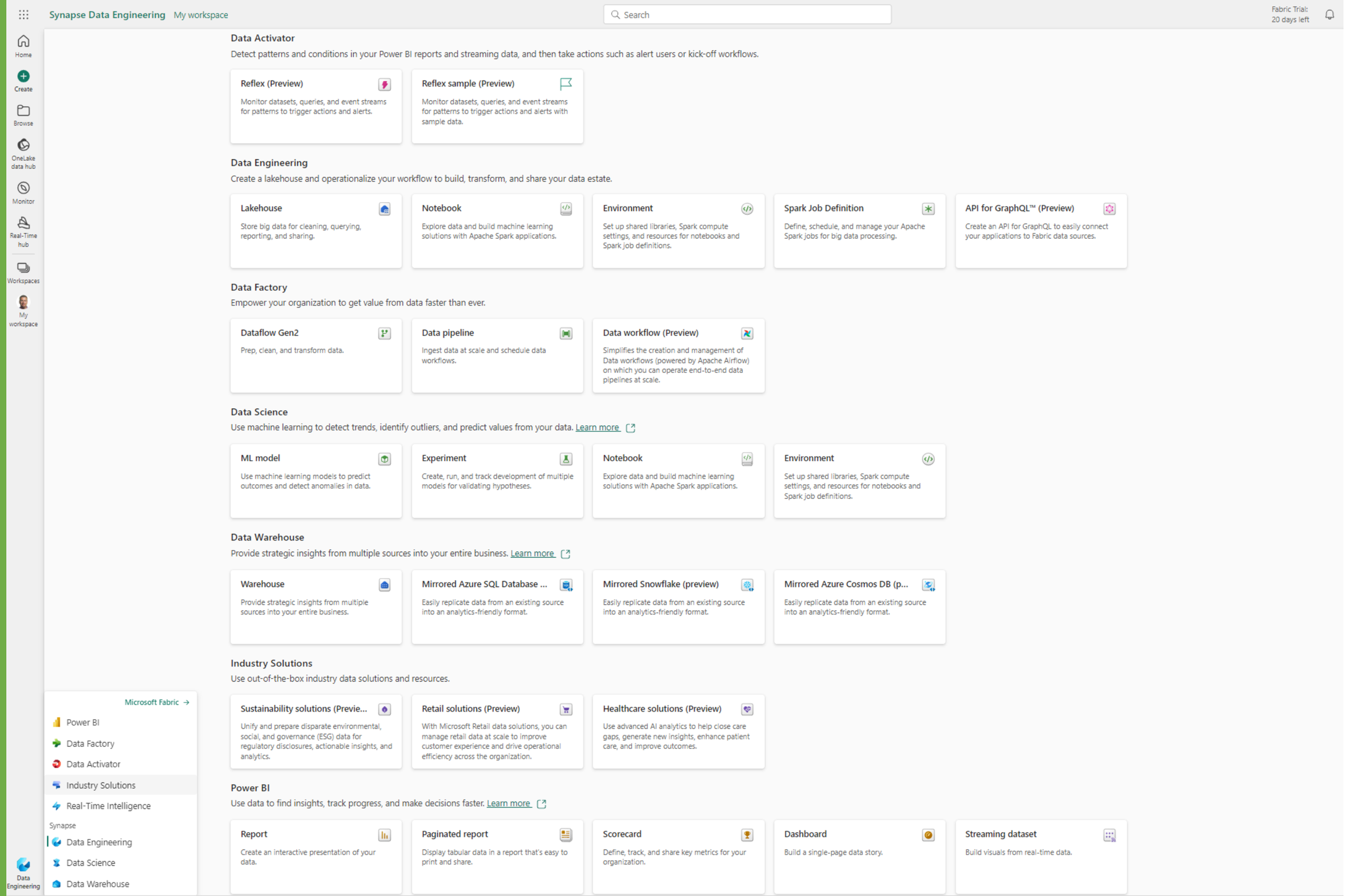

Notebook

KQL Queryset

Reflex

Real-time Hub

The Microsoft Fabric Icon Game



Copilot

Add a slide about the advantages of combining real-time data with batch data in a lambda architecture.

I completed some of your request, but I'll need more practice before I can do everything in it. What else can I help you with?

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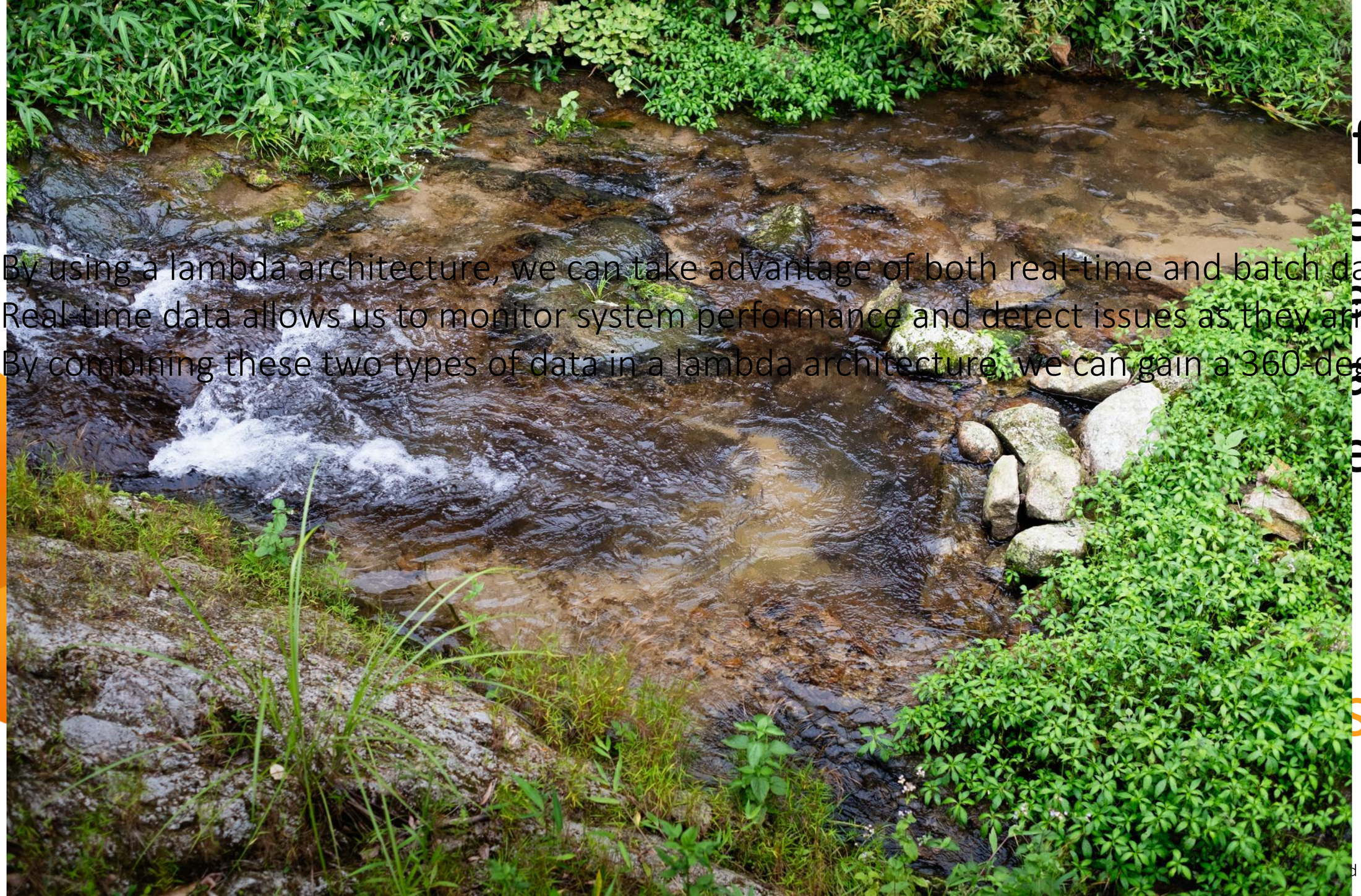
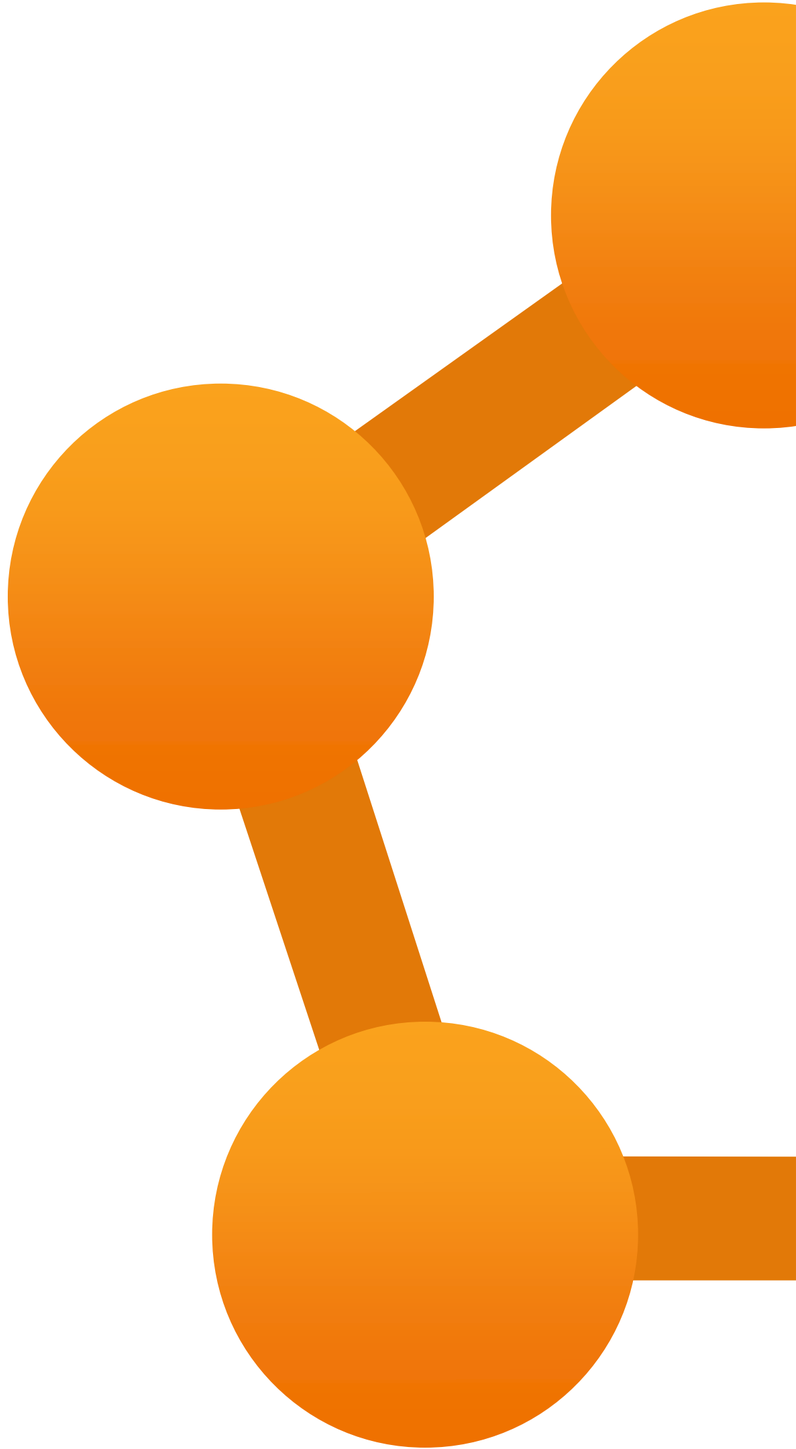


By using a lambda architecture, we can take advantage of both real-time and batch data to ga
Real-time data allows us to monitor system performance and detect issues as they arise, whil
By combining these two types of data in a lambda architecture, we can gain a 360-degree vie

Real-time Intelligence with Microsoft Fabric

What | Why | How



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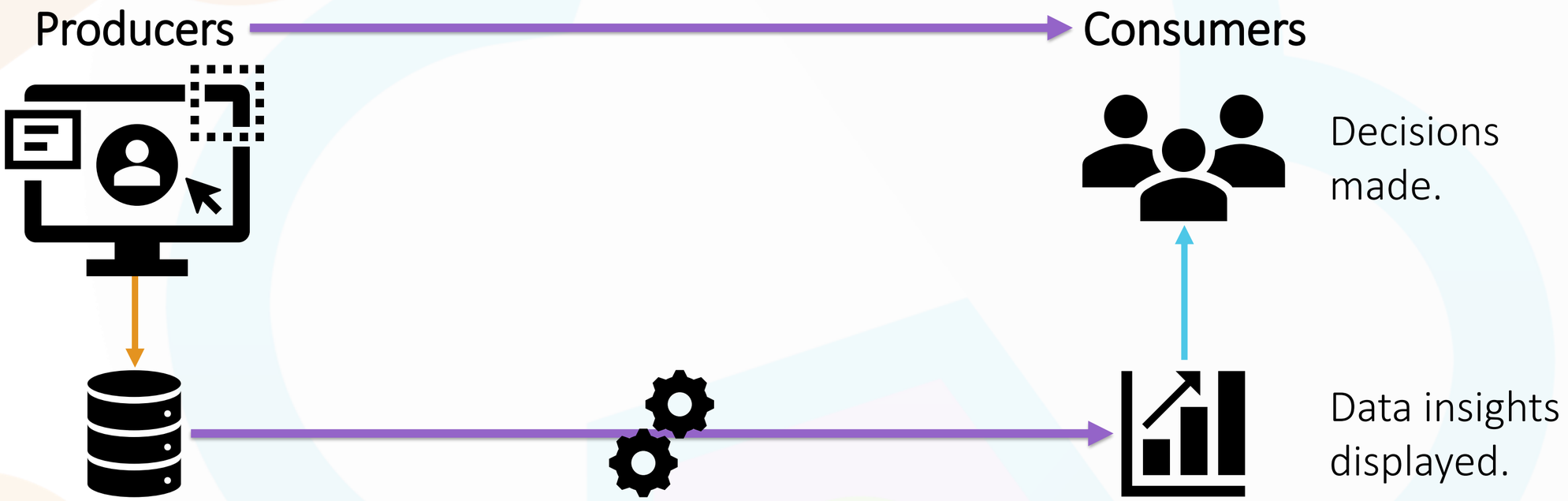
What do we mean by real-time data?

Answer (big data):

"~~Any data that you cannot process in the time that you have/want~~ using the technology you have."

Buck Woody



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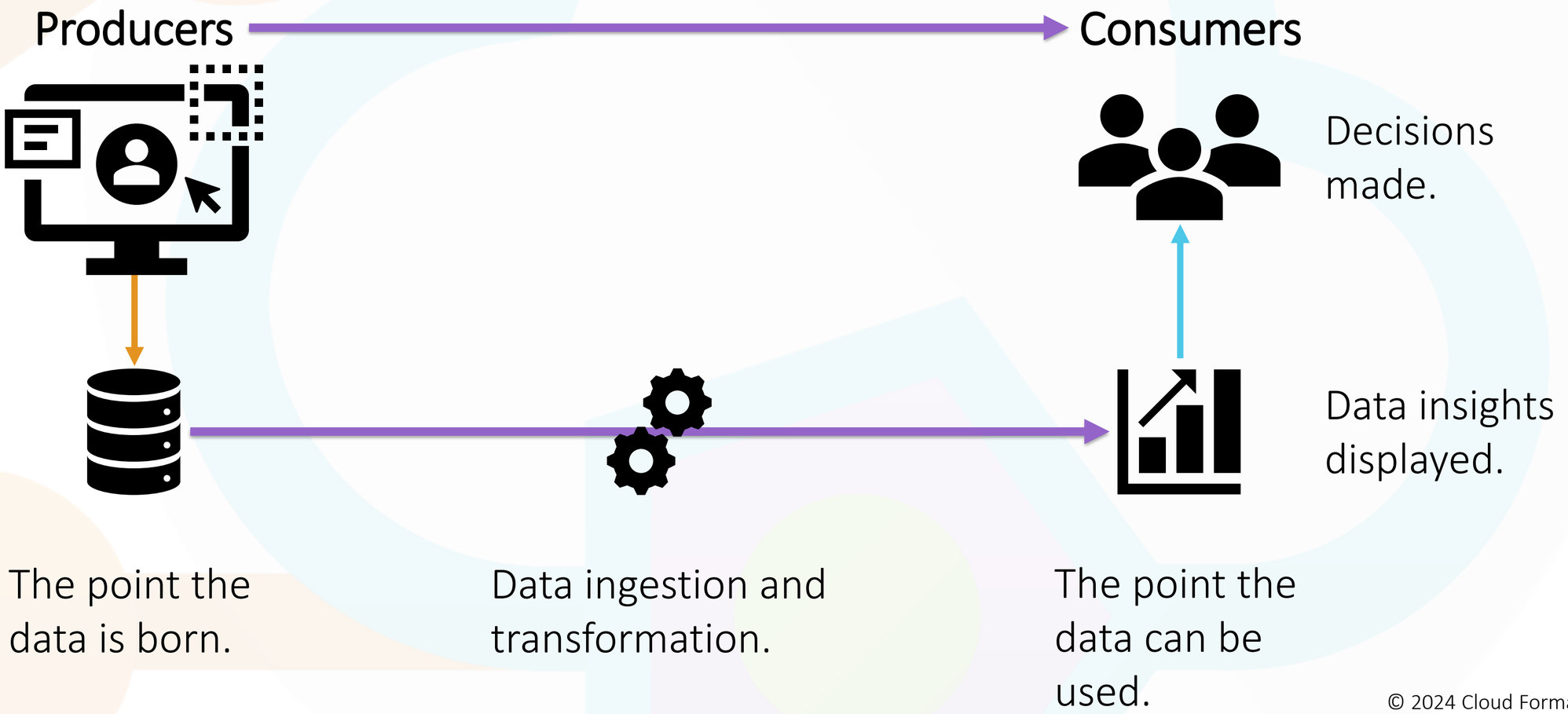
What do we mean by real-time data?

Answer:

"Delivering data from the producer
to consumer as fast as possible
using the technology you have."



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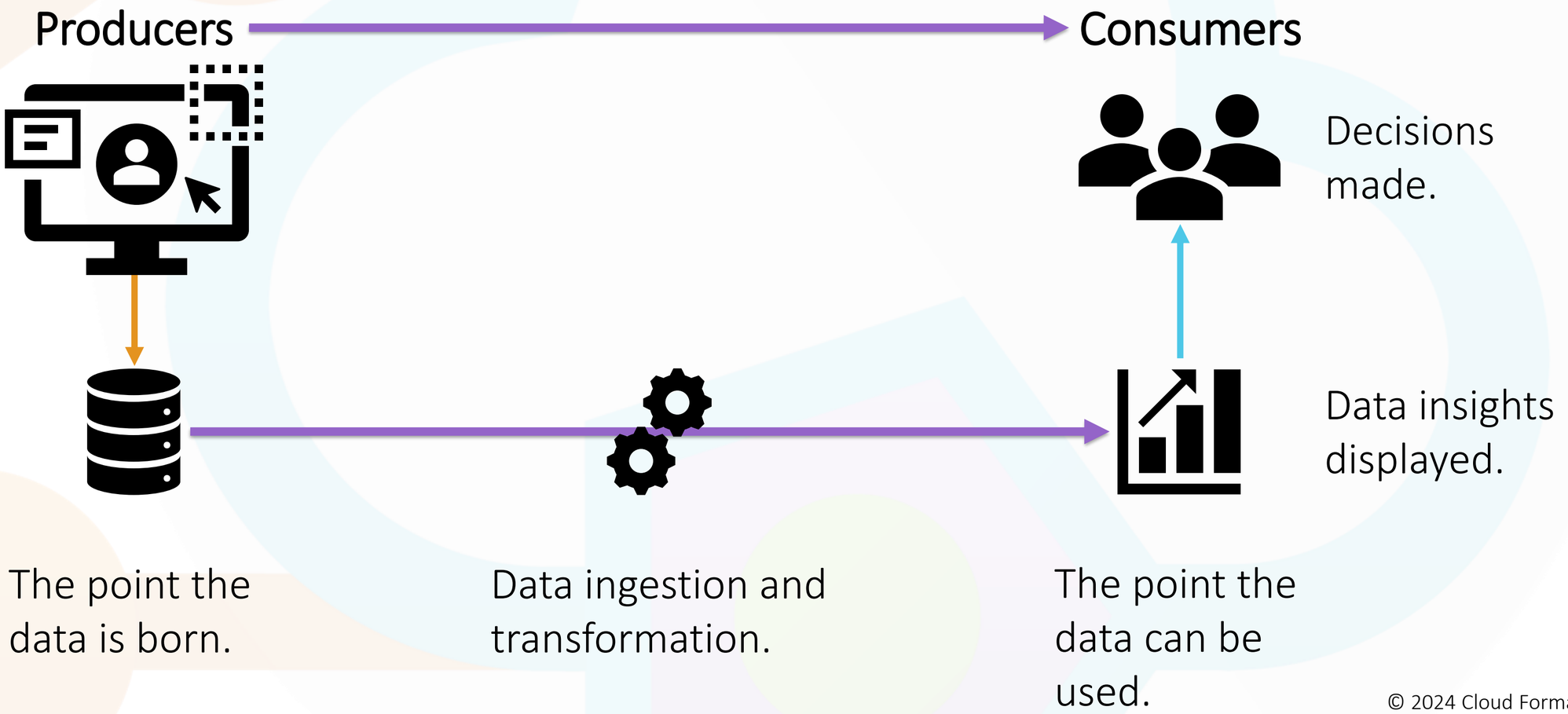
What do we mean by near real-time data?

Answer:

"Delivering data from the producer
to consumer
within 1 minute of it being created (born)."



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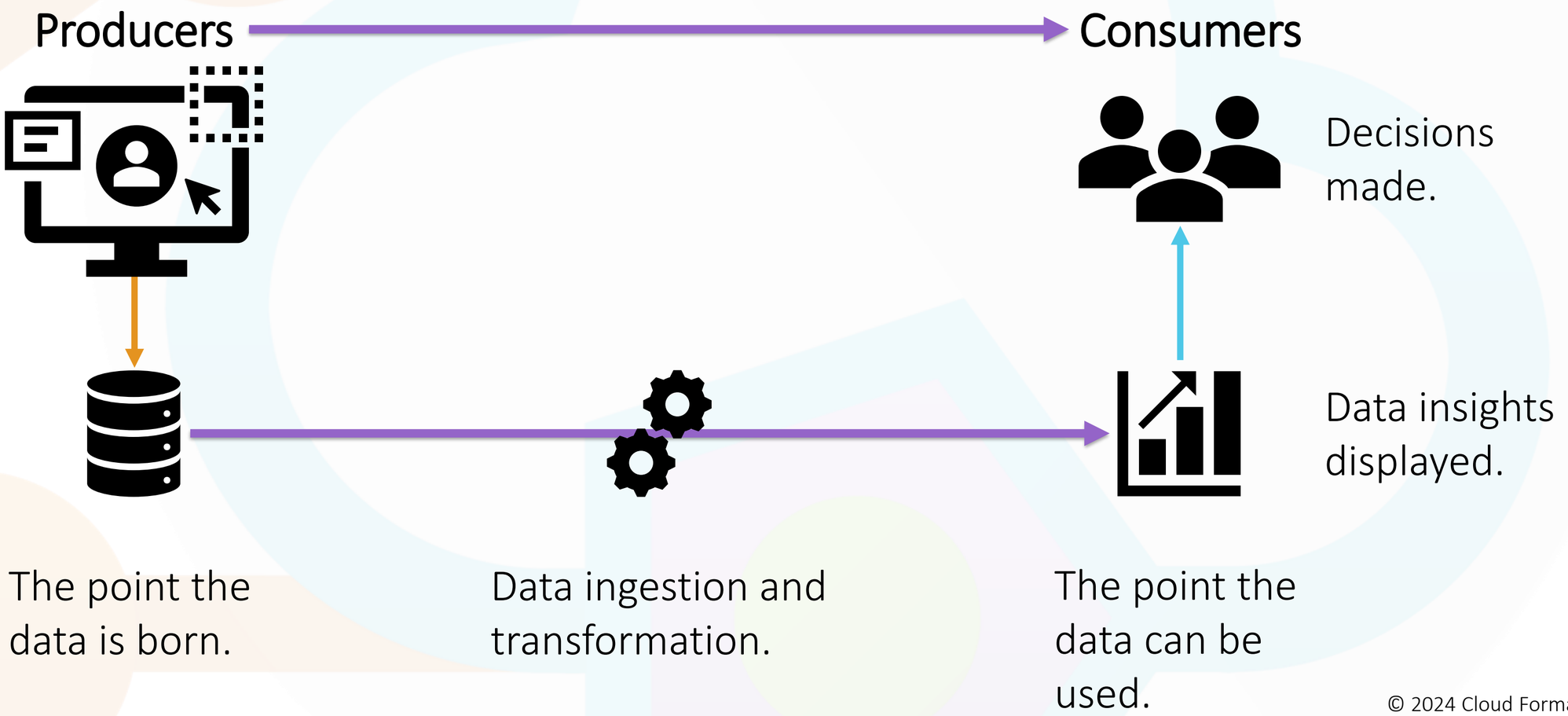
What do we mean by a data stream?

Answer:

"Data that is constantly flowing from producer
to consumer
in near real-time."



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Real-Time Intelligence in Microsoft Fabric

Enterprise real-time data platforms

Azure Event Hubs

Azure Event Grid

Azure Stream Analytics

Azure Data Explorer

+

Self-service reporting and activation

OneLake

Data Activator

Power BI

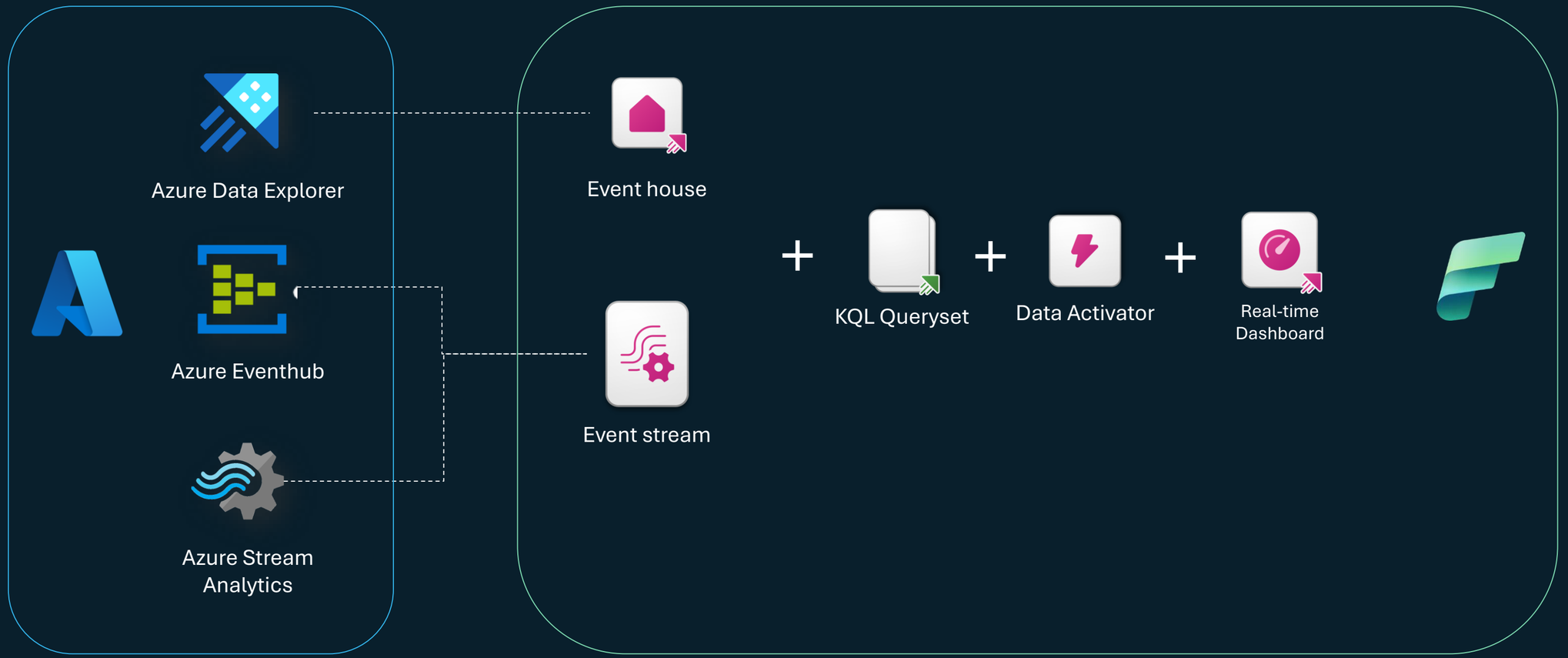
=

Real-Time Intelligence in Microsoft Fabric

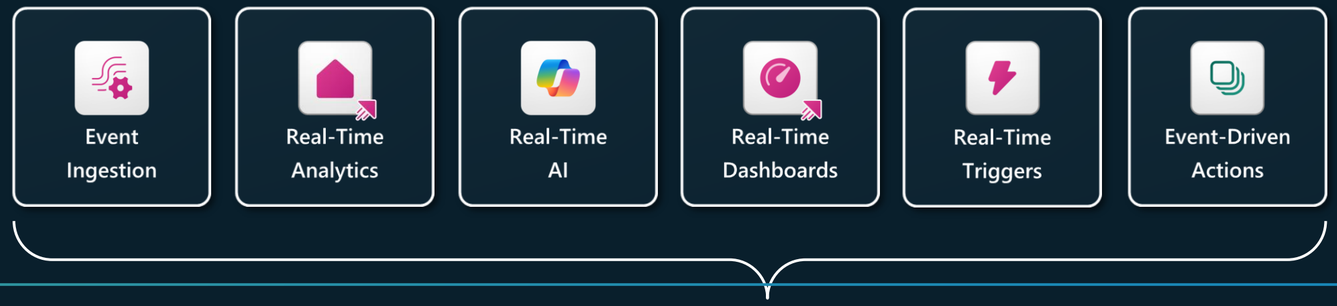
Fully integrated, no/low-code real-time SaaS data platform

Microsoft Fabric Real-time Intelligence

Evolving Azure services into Microsoft Fabric



Real-Time Intelligence in Microsoft Fabric



Data Factory

Data Engineering

Data Warehouse

Data Science

Real-Time Intelligence

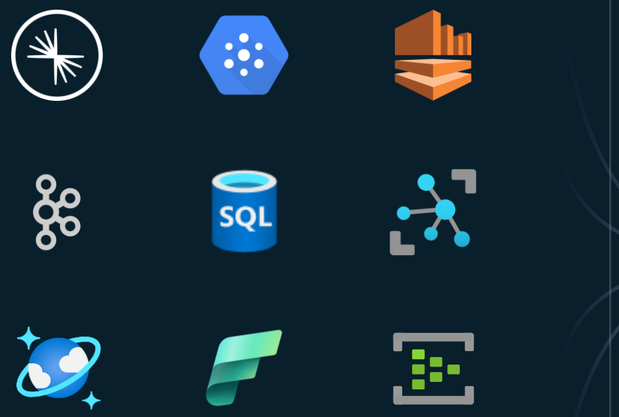
Power BI

Real-Time hub

OneLake

AI

Real-Time Intelligence in Microsoft Fabric



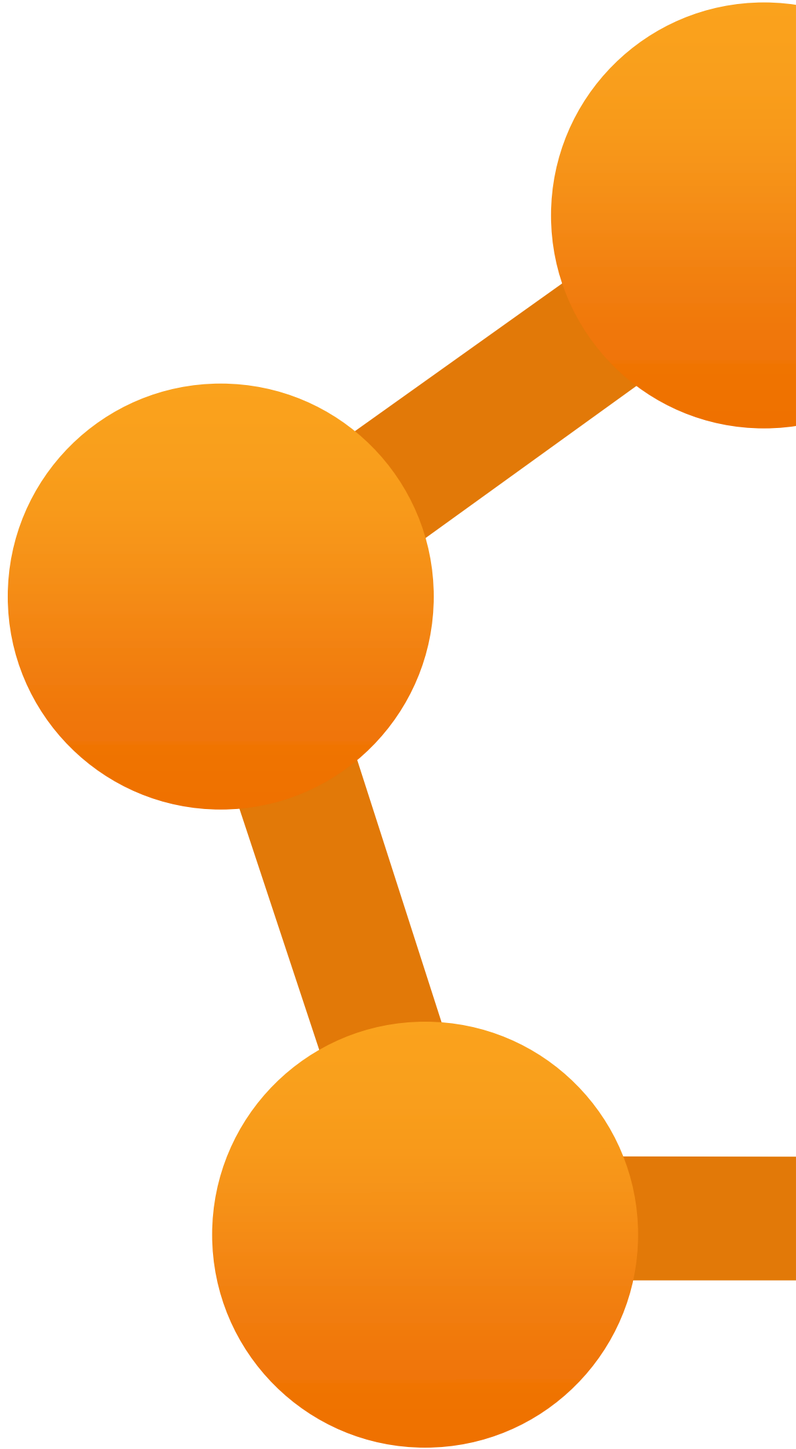
Real-Time hub

- Process
- Analyze
- Monitor
- Act

AI-powered Intelligence

Real-time Intelligence with Microsoft Fabric

What | Why | How



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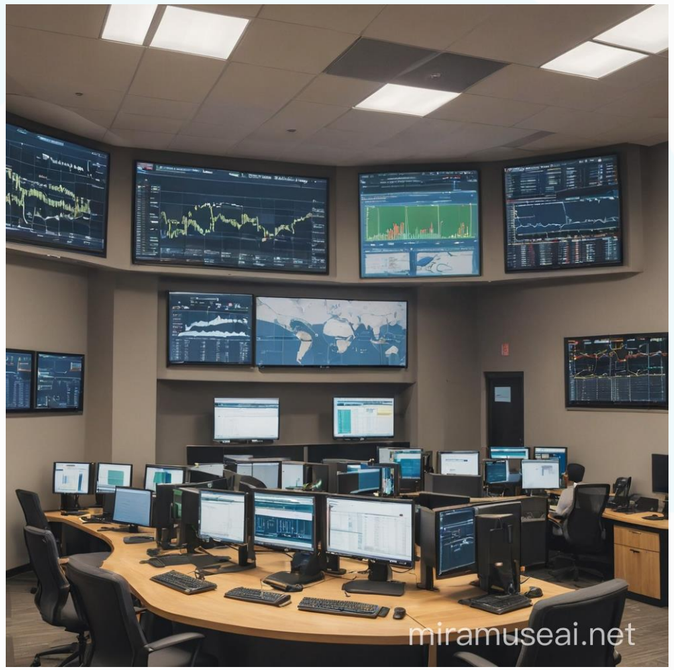
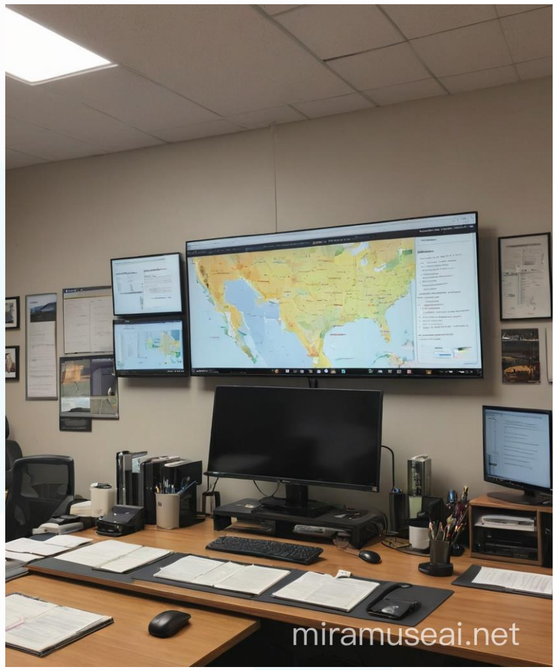
Our Use Case

A bike shop front with large glass windows showing bike related products on the shelves inside. The shop front has a sign with the name Adventure Works.

A bike shop called Adventure Works, standing inside looking at the cashier which includes a modern point of sale till system. On the wall behind the cashier are bike related products.



At the corporate head offices of Adventure Works standing in the main operations room. On the wall are large televisions showing a range of data analytics dashboards with charts and technical information.



Inside the office of the CEO at the company Adventure Works, on the desk is a business plan to role out more retail stores across the country based on targeted growth on an analytics dashboard visible on a large TV.

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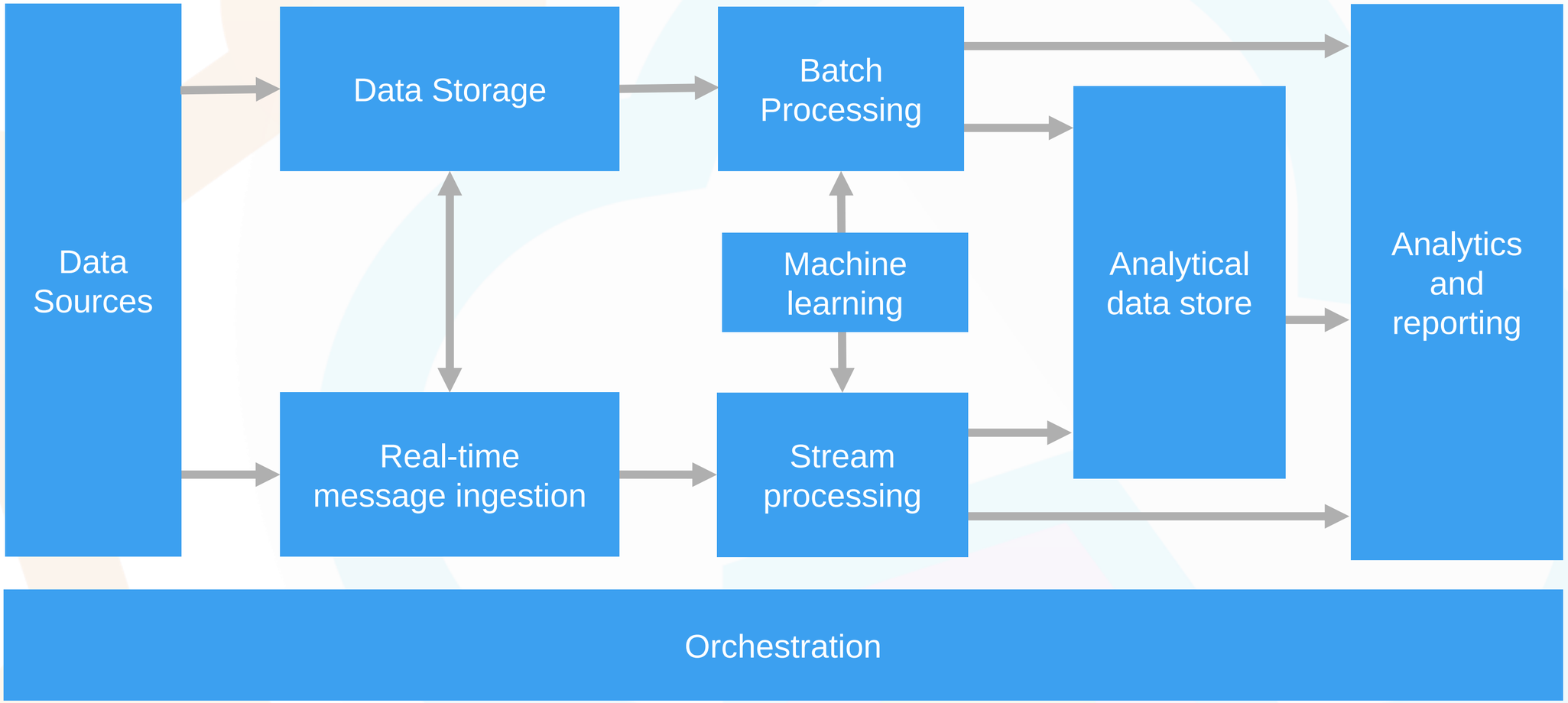
Components of a Big Data Architecture



https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/

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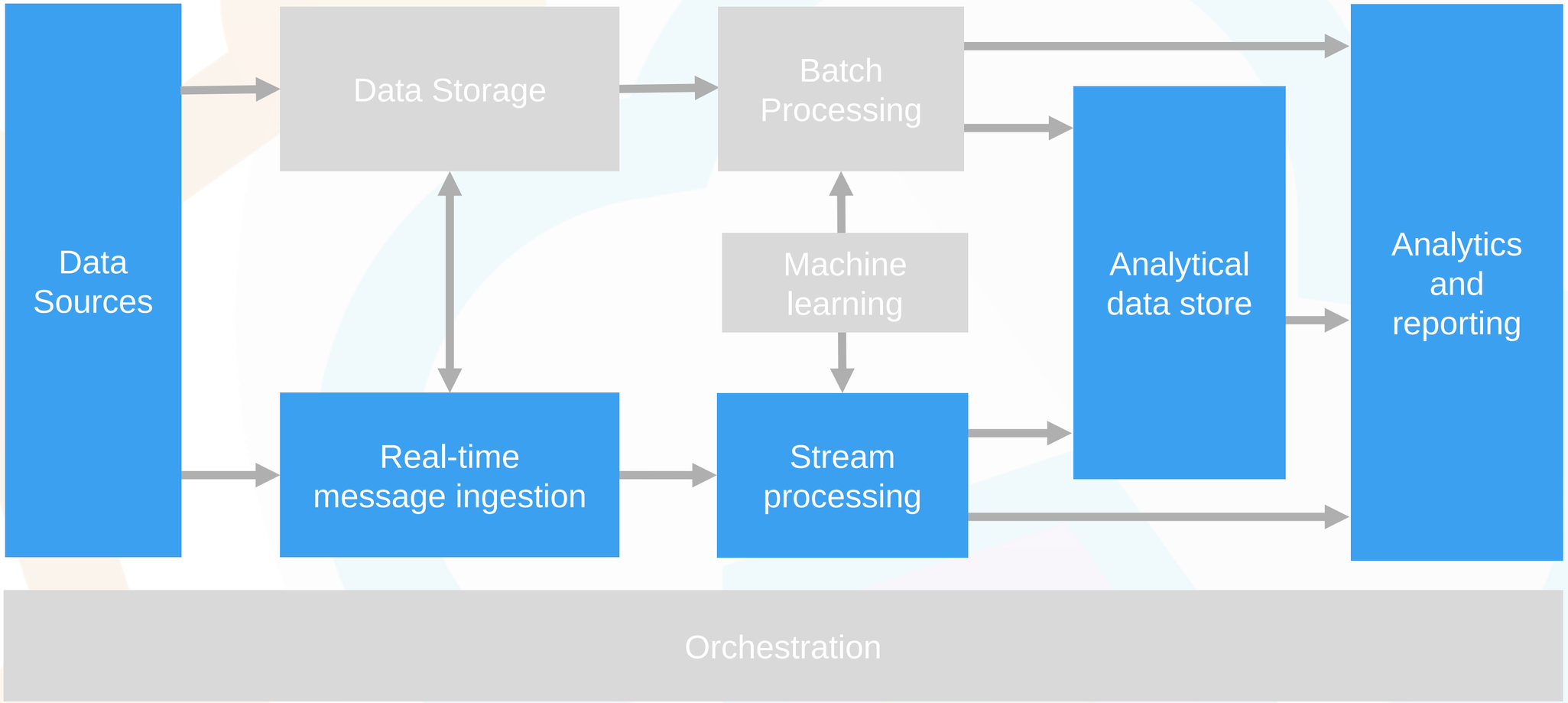
Components of a ~~Big~~ Data Architecture



https://docs.microsoft.com/en-us/azure/architecture/data-guide/big-data/

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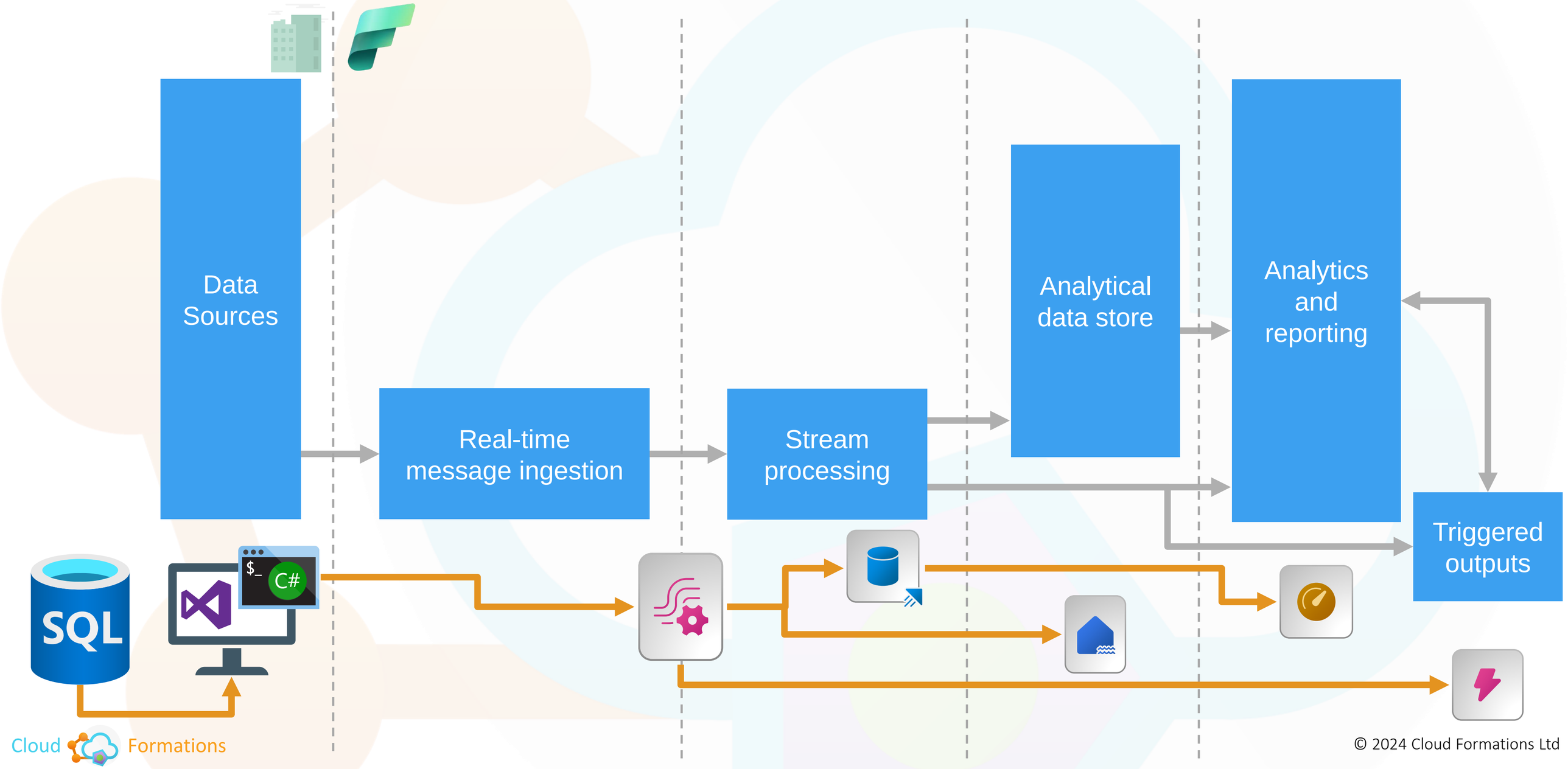
Fabric Real-Time Data Handling



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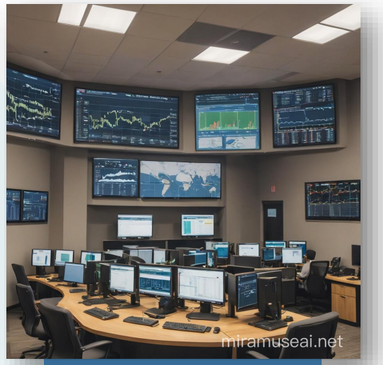
Fabric Real-Time Data Handling



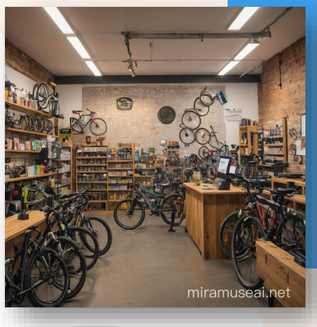
Data Sources

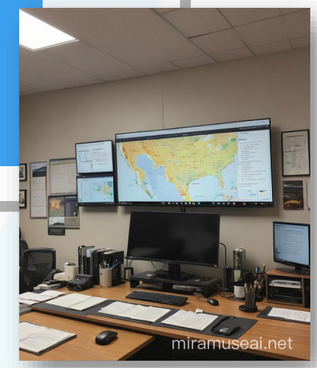
Real-time message ingestion

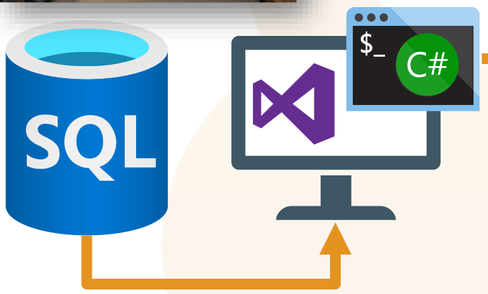
Stream processing

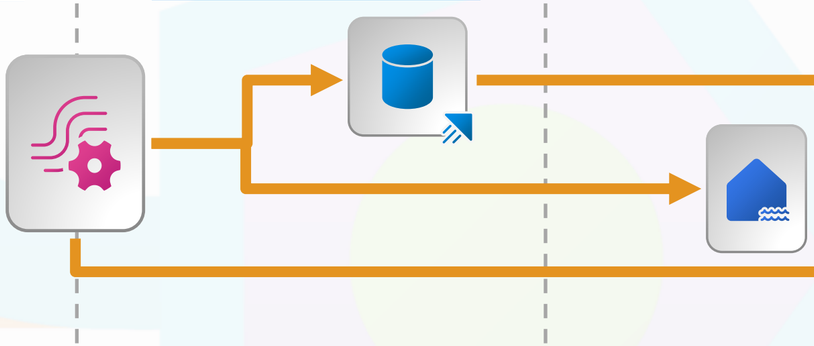
Analytical data store

Analytics and reporting









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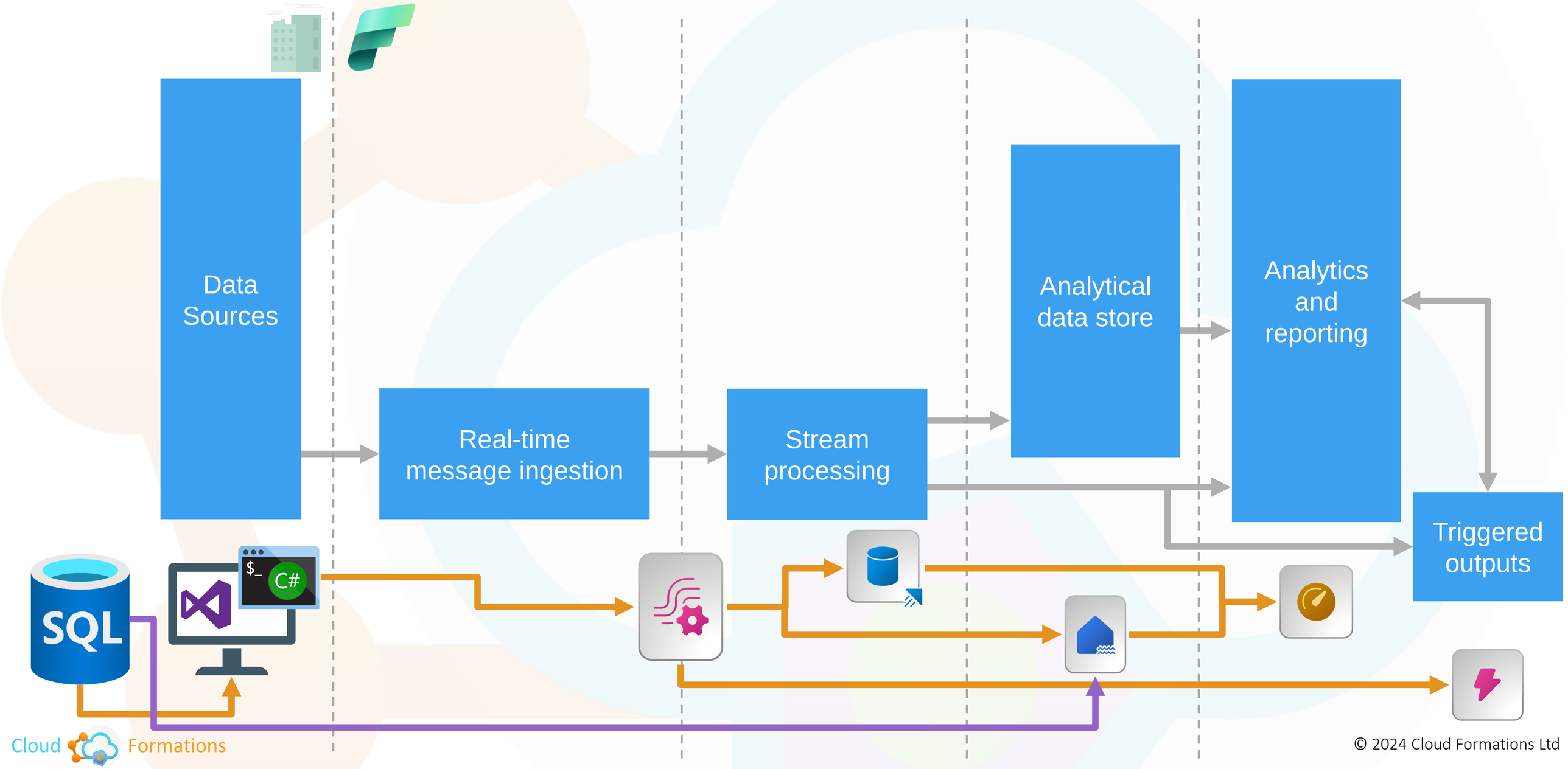
Fabric Real-Time Data Handling (Mirroring)



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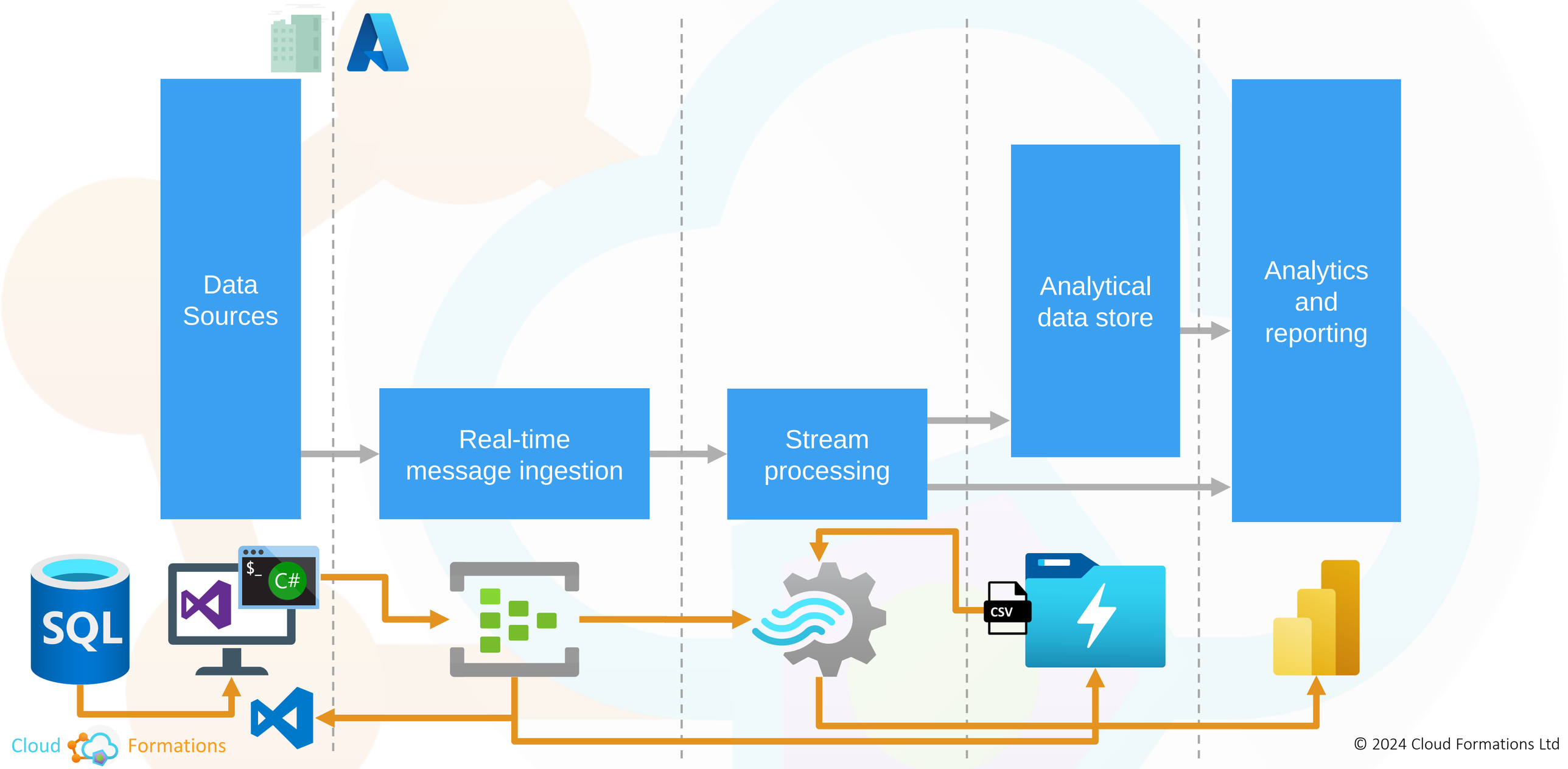
Azure Real-Time Data Handling



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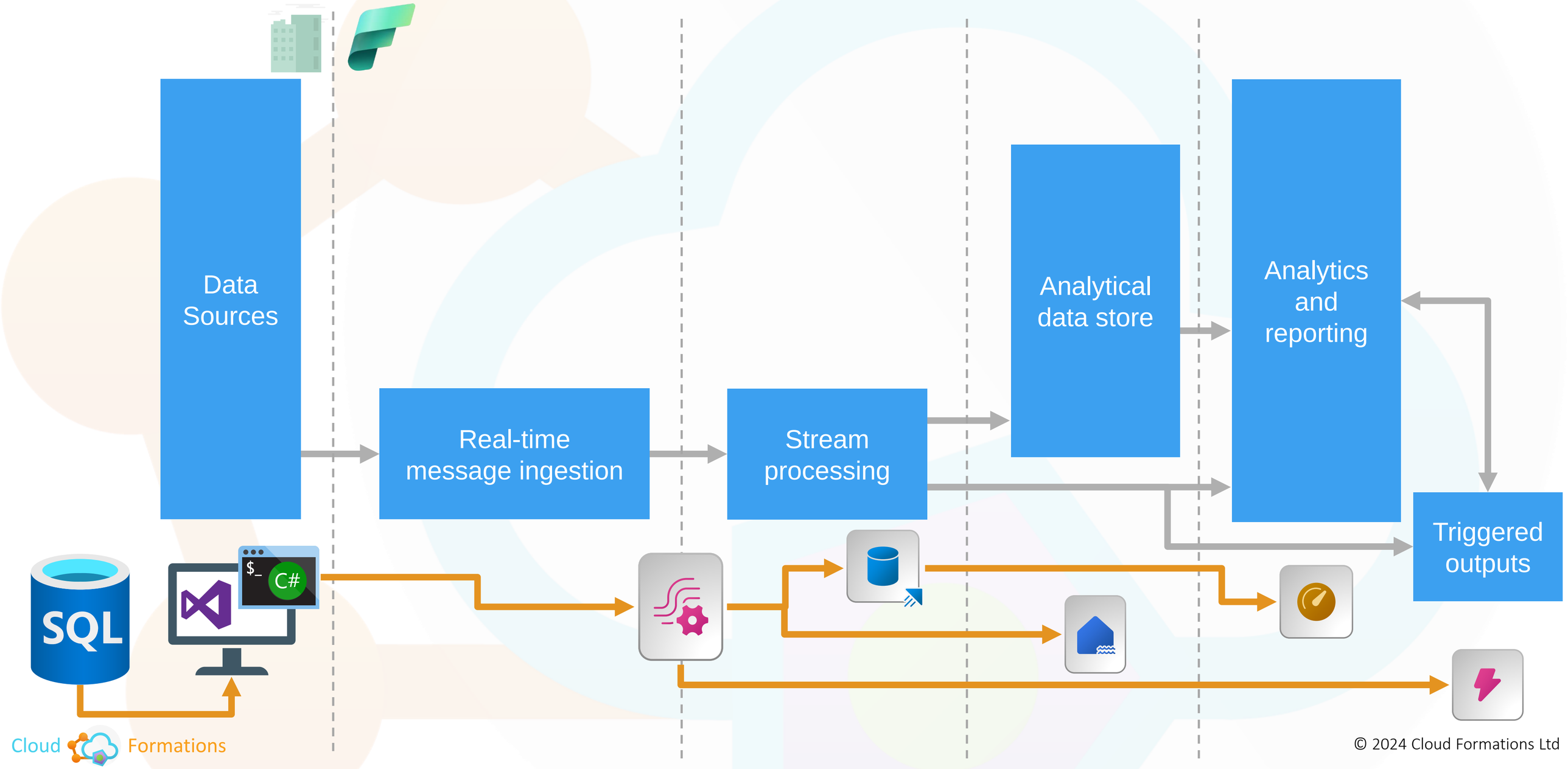
Fabric Real-Time Data Handling



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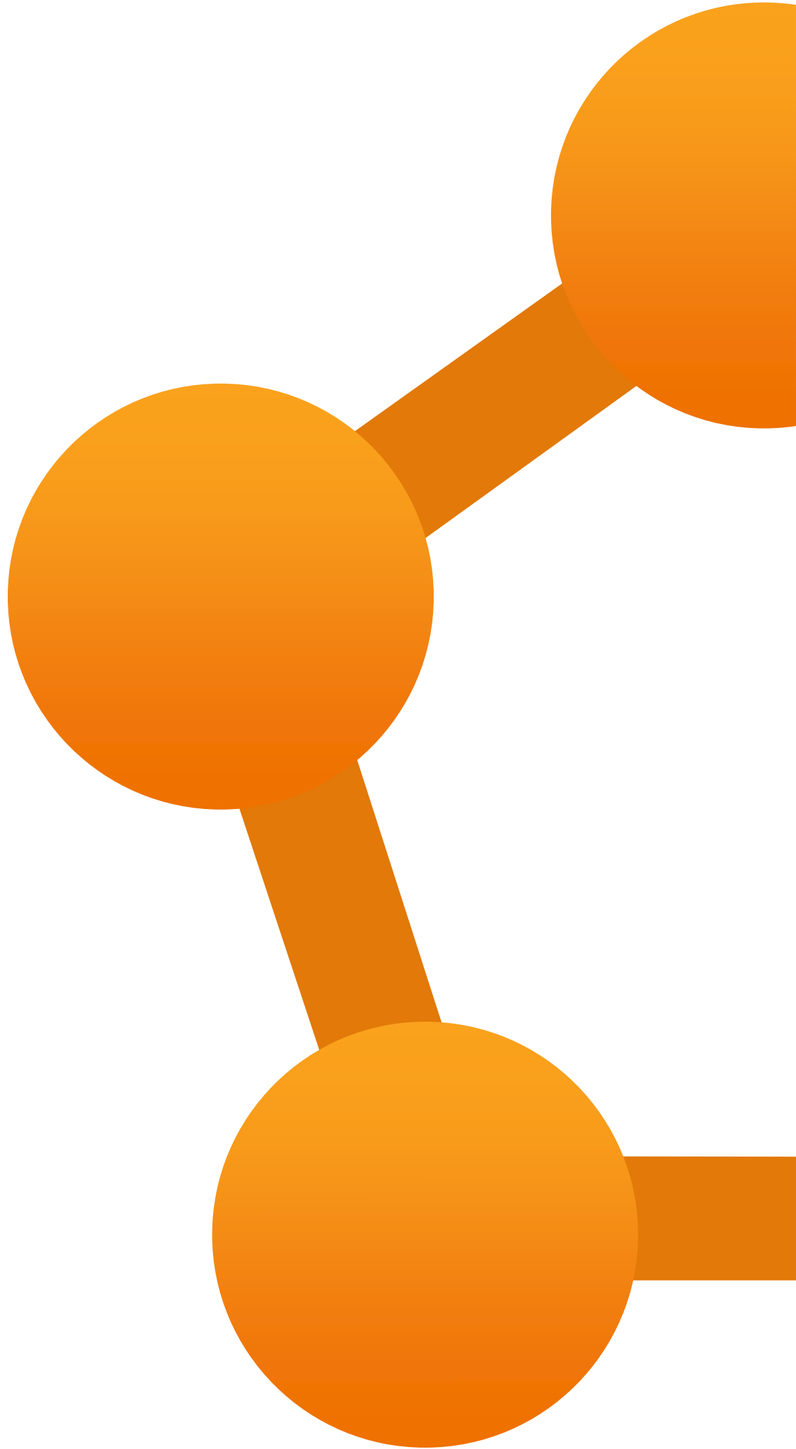
Conclusions



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Glossary

Term	Definition
Big Data	Any data that you cannot process in the time that you have/want using the technology you have.
Real-time Data	Delivering data from the producer to consumer as fast as possible using the technology you have.
Near Real-time Data	Delivering data from the producer to consumer within 1 minute of it being created.
Data Stream	Data that is constantly flowing from producer to consumer in near real-time.

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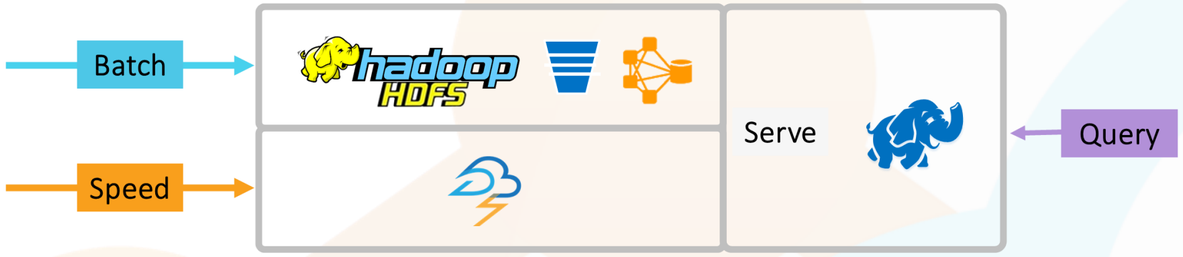
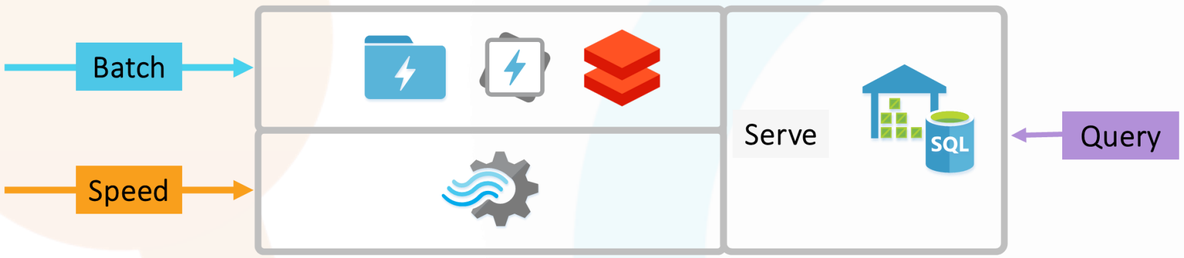
Lambda & Kappa Architectures vs Technology

Lambda

~2015



~2018



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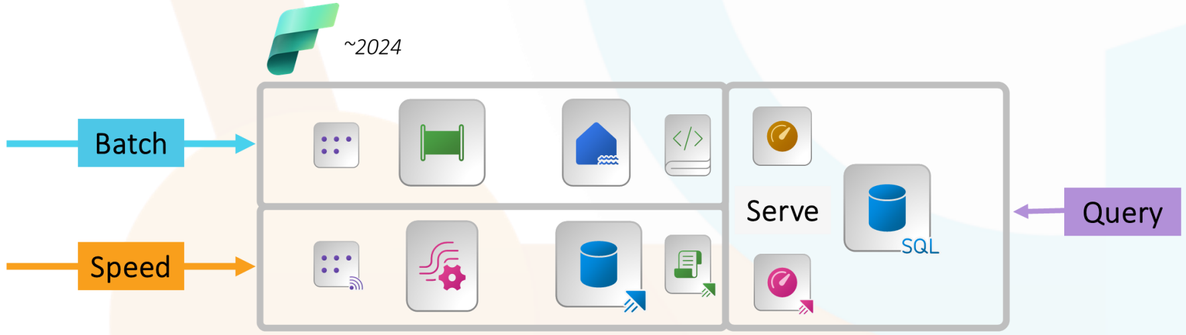
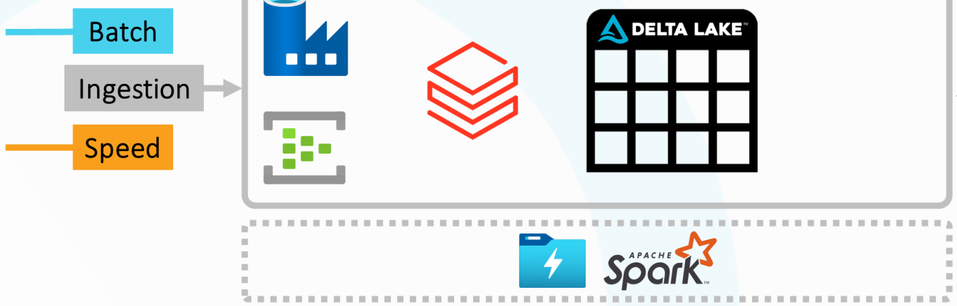


Kappa

~2019



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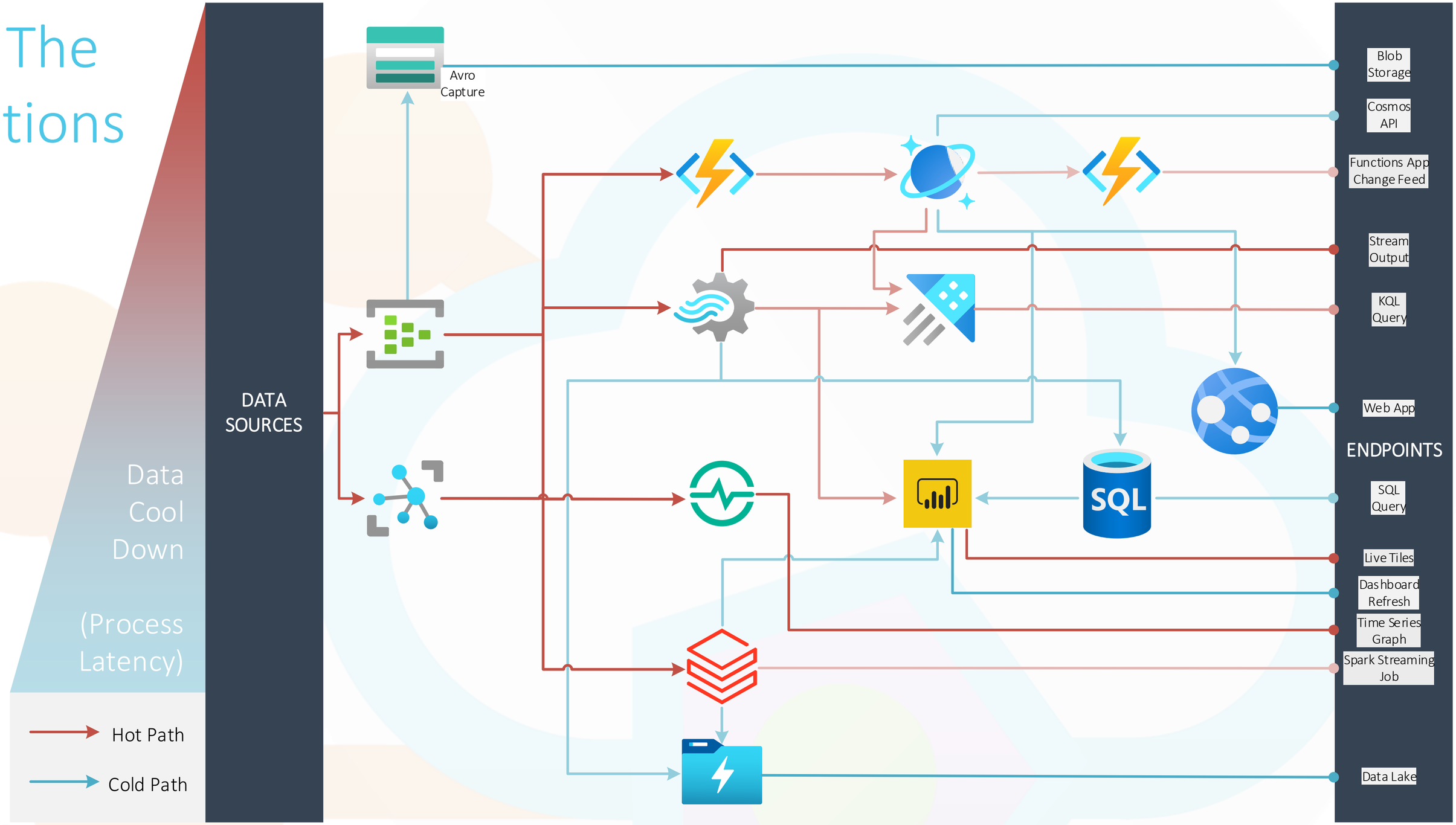
All The Options



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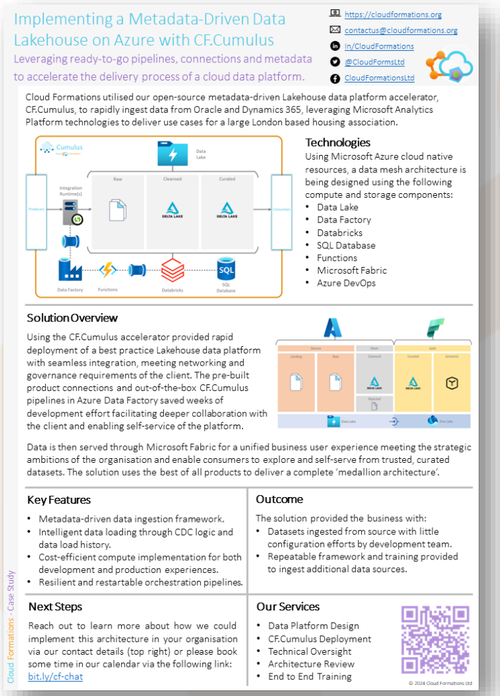
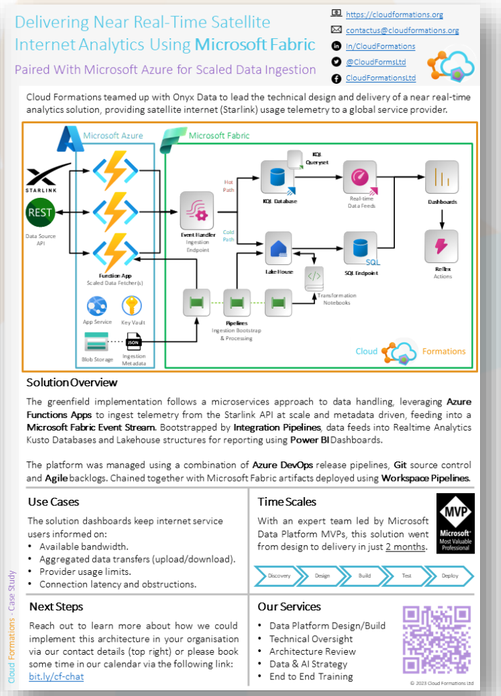
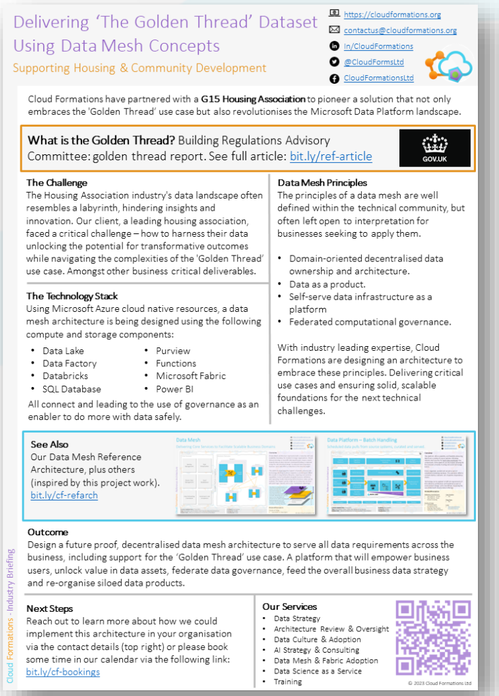
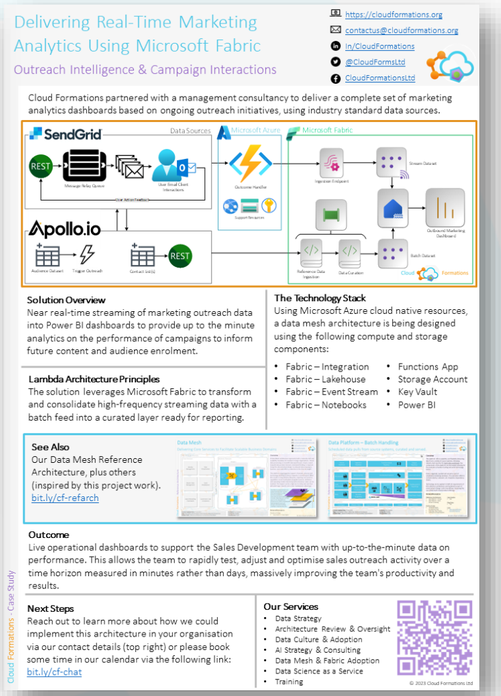
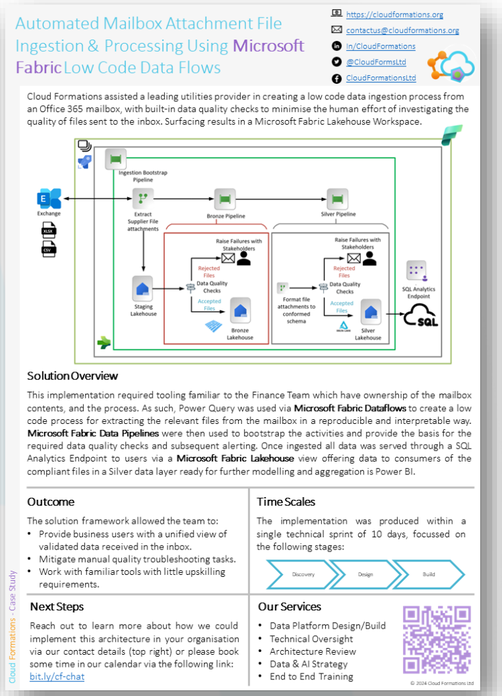
Customer Case Studies & Testimonies











"Cloud Formations provide insight and pragmatic advice based on deep understanding and experience across a range of technical domains. I value their sleeves rolled up approach and willingness to flex across a range of requirements."

"Cloud Formations recently facilitated a value discovery session with us using their engagement framework. The insights and outputs from this session have proven incredibly valuable and we are excited to collaborate with them on the next steps in our journey."

"We have partnered with Cloud Formations and its team of SMEs for several years on many different projects. Having them as a trusted advisor to inform data and technical strategy has been incredibly valuable. They have and continue to support to us in the design and delivery of a data mesh platform allowing us to scale our data products for affective business user consumption."

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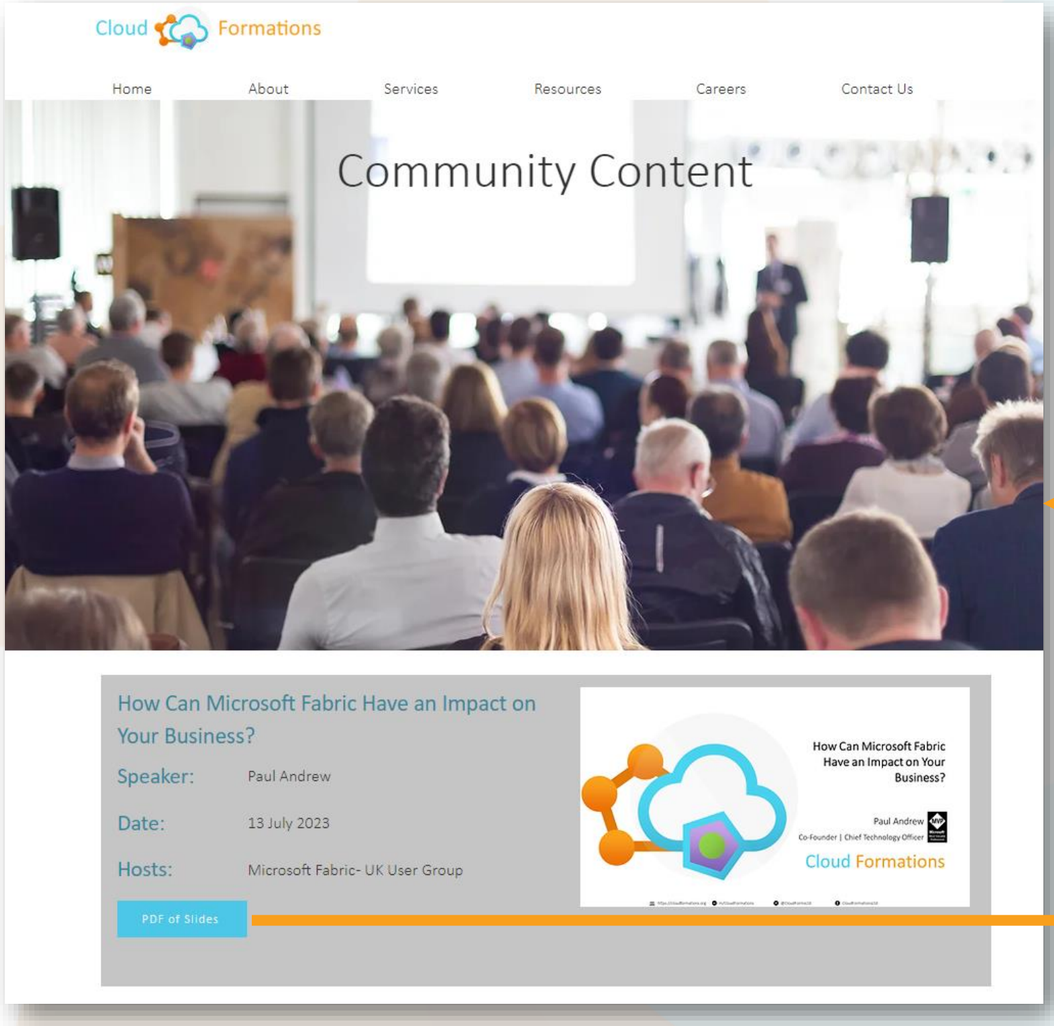

https://www.cloudformations.org/community-content

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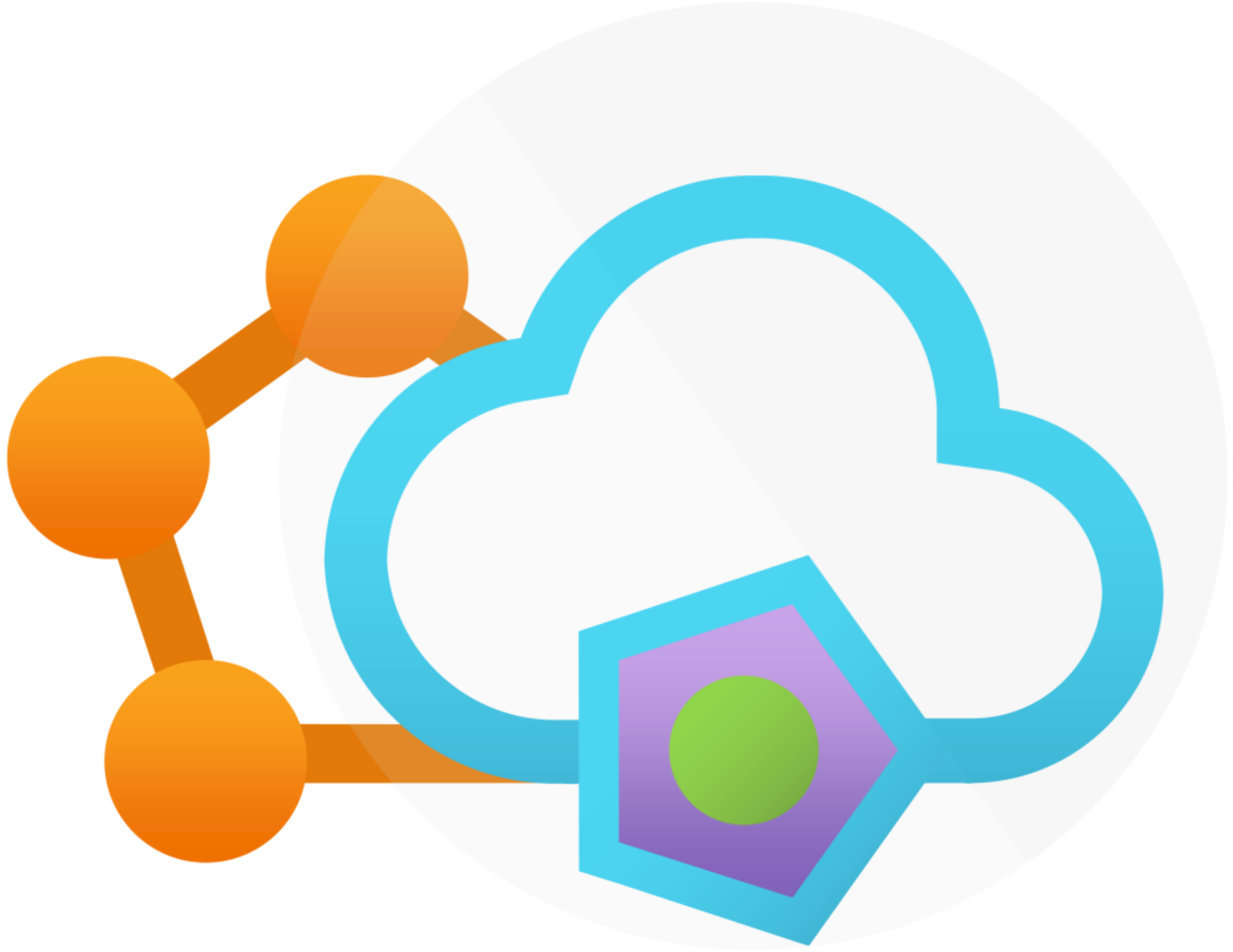

Thank You

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In/mrpaulandrew

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Paul Andrew

Technical Architect

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